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FACT SHEET

GREAT LAKES AREAS OF CONCERN

June 14, 1989

WAUKEGAN HARBOR, ILLINOIS

Waukegan Harbor is located on the western shore of Lake Michigan, approximately 37 miles (60 km) north of the city of Chicago and 10 miles (16 km) south of the Illinois-Wisconsin border. The harbor is approximately 37 acres (150 sq. meters) in size and has an average depth of about 20 ft. (6 meters). Land use around the harbor is industrial and commercial.

PROBLEMS AND SOURCES

In 1976, high levels of PCBs (see glossary) were discovered in soil and harbor sediments in the vicinity of the Outboard Motor Company (OMC) plant. U.S. Environmental Protection Agency (USEPA) investigations have determined that OMC discharges are the source of the PCB deposits.

IMPAIRMENT OF DESIRED USES

The PCB problem has restricted use of the harbor for:

- Fish consumption, due to high concentrations of PCBs found in fish from the harbor. A Lake County Health Department fish consumption advisory has been issued for the harbor and nearshore areas of Lake Michigan.
- Commercial shipping, due to restrictions on contaminated sediment disposal necessary for maintenance dredging. Access to the harbor by deep draft vessels is thereby limited.

REMEDIAL ACTION PLAN DEVELOPMENT

A. The Process

The Illinois Environmental Protection Agency (IEPA) is responsible for the development of the Remedial Action Plan (RAP) for the Waukegan Harbor Area of Concern (AOC).

A USEPA Superfund site is within the Area of Concern. Superfund is a federal priority cleanup program in which the USEPA pursues cleanup of the most polluted sites in the country. The Superfund site includes Slip 3, the Upper Harbor, and parts of OMC property including the North Ditch, Crescent Ditch, parking lot area and Oval Lagoon. A consent decree has recently been signed between OMC, USEPA and the State of Illinois to clean up the site. The consent decree includes a work plan for design and remedial action activities.

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A public meeting was held by USEPA to discuss the cleanup plan in the decree. Comments on the plan were taken in the fall of 1988. Most commentaries agreed with the cleanup plan though some questioned whether sediments with less than 50 ppm should also be dredged from the Superfund site. Questions were also raised concerning the degree of water quality and environmental protection provided during the construction phase.

A RAP will not be written for the AOC until the OMC site has been cleaned up. At that time, studies will be conducted to determine if a RAP is needed to address the remaining problems.

B. Who's Involved

Illinois Environmental Protection Agency (IEPA) is responsible for the development of the RAP. USEPA and OMC are currently the primary actors in the cleanup of the Superfund site. The U.S. Army Corp of Engineers (USACE) will be involved with dredging the navigation channel.

C. The Plan

1. Remedial Actions Proposed, Planned or Accomplished by the Plan:

The cleanup of the Superfund site has begun independent of the RAP. It includes several elements:

- A new slip will be constructed on the east side of the Upper Harbor to replace Slip 3 and Larsen Marine will be relocated from its present location to the new slip.

- Slip 3 will be permanently isolated from the Upper Harbor by the construction of a double-walled, braced and soil-bentonite backfilled sheet pile cutoff wall. After the slip is isolated, an impermeable clay slurry wall with a minimum thickness of three feet will be constructed. This wall will be keyed into the underlying clay till, and a permanent containment cell will be built in the slip.

- The most highly contaminated sediments from Slip 3 with concentrations of PCBs in excess of 500 ppm will be removed from the slip and treated. The Upper Harbor will be dredged and the dredged materials placed in the newly constructed Slip 3 containment cell.

- Two additional containment cells will be built. The East Containment Cell will encompass part of an OMC parking lot area and land to the east of the lot. The West Containment Cell will encompass the Crescent Ditch and Oval lagoon area. Before constructing the West Containment Cell, contaminated soils in these areas in excess of 10,000 ppm will be excavated and removed for treatment.

- Soils and sediments excavated from Slip 3, the North Ditch, Crescent Ditch and Oval Lagoon areas designated for treatment will be treated on-site. The Consent Decree requires that after startup, the selected treatment technology must remove at least 97 percent of the PCBs by

weight from the contaminated materials without endangering public health. The treated sediments will be placed in the West Containment Cell. Extracted PCBs will be disposed of off-site in accordance with all applicable Federal and State laws.

- A short-term water treatment facility will be constructed for treating water generated during the remedial construction activities. Dredge water will be treated by sand filtration. Other water generated during the course of remedial activity will be treated utilizing the sand filtration step to remove sediments from the water, followed by carbon adsorption treatment.

- A smaller permanent water treatment facility will be constructed to treat water extracted from the containment cells. Treated water will be discharged to the North Shore Sanitary District or to an on-site location approved by EPA.

- When all materials have been deposited in the cells, they will be closed and capped with a high density polyethylene liner and soil cover. The cells will include extraction well systems which are designed to prevent the migration of PCBs from the cells.

- Monitoring wells will be constructed around the cell perimeters and monitored periodically to verify ground water quality.

The USACE is responsible for dredging the harbor's navigation channels outside the USEPA Superfund site limits. The USACE is considering plans to dredge all of the harbor outside the Superfund site and dispose of the sediments (which have less than 50 ppm PCBs) in a USACE constructed containment facility. However, plan implementation will depend on whether USACE headquarters in Washington, D.C. approve dredging outside the authorized project limits. The USACE is developing plans for containment facilities at two sites:

1) Inland (approximately 10 miles (16 km) from the city of Waukegan)
2) Offshore (just south of the public marina)

2. Who is responsible for implementation of the plan and how will it be financed?

USEPA is responsible for oversight of the Superfund cleanup. OMC will finance the cleanup of the site and is responsible for its future maintenance and operation. Cost of the cleanup is approximately $19 million. Parties responsible for implementation of the RAP have not been designated to date.

3. Progress and Milestones

An agreement to cleanup the Superfund site was reached between OMC and the USEPA in September 1988. The court entered the consent decree on April 21, 1989. OMC is designing the proposed cleanup plan, which is expected to be completed by 1992. The USACE intends to have their navigation dredging and disposal project completed by 1992, contingent upon completion of the clean-up of the Superfund site, and approval of the plan by USACE headquarters.

The USACE is preparing an Environmental Impact Statement on their proposed disposal alternatives which is scheduled to be circulated by July, 1989 at which time public comment will be taken.

QUESTIONS TO CONSIDER

- How effective are the elements in the proposed Superfund plan?
- Should the proposed cleanup plan include treatment of sediment with PCB concentrations of less than 50 ppm?
- What are the "pros and cons" of offshore and inland containment facilities for contaminated sediment with PCB concentrations of less than 50 ppm?
- Have non-point sources and remedial action proposals been adequately addressed?
- What is the goal of the AOC RAP for Waukegan Harbor; i.e. how clean should the water and sediment in the AOC be?

The EPA has addressed a number of these questions in the Responsiveness Summary attached to the 1989 Record of Decision. Copies of this document are available through EPA at the address listed below.

HOW TO GET INVOLVED

For information on:

U.S. EPA Superfund site:

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Project Manager
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230 S. Dearborn
Chicago, IL 60604
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59 E. Vanburen
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312-939-0838

USACE dredging proposal:

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U.S. Army Corps
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219 S. Dearborn
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RAP development:

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GLOSSARY

1. Combined Sewer Overflow (CSO) - When a sewer, intended to receive both wastewater and storm or surface water, without treatment, overflows usually following rainstorms.
2. Containment Facility - A structure for storing or holding contaminated material.
3. Groundwater - Subsurface water from which wells and springs are fed. The term generally applies only to water below the water table.
4. Heavy Metals - Substances such as mercury, cadmium, lead and arsenic, used in various manufacturing, industrial processes and consumer products.
5. Landfill - A natural or man-made depression in the earth's surface used for dumping various types of waste.
6. Nonpoint Source - Sources of pollution which, instead of coming from a pipe, are diffused into the water from land or the atmosphere. Examples include automobile emissions in the atmosphere, and runoff from waste disposal sites and farmland.
7. Organic Chemicals - All chemical substances containing carbon. Hydrocarbons and their derivatives, such as paint thinner, most pesticides and gasoline, belong to this group of chemicals.
8. Outfall - The location, or structure where wastewater or drainage empties into a water body from a sewer, drain, or other conduit.
9. Point Source - A source of pollution which can be identified from a specific geographic location, such as municipal sewer outfalls or industrial discharge pipes.
10. Polluted - A condition in which one or more substances are present in concentrations higher than the natural condition. A polluted state is not an absolute condition but a matter of degree.
11. Polynuclear Aromatic Hydrocarbon (PAH) - A family of organic chemicals based on the chemical structure of benzene. This family of compounds includes a number of petroleum products and byproducts.
12. Polychlorinated Biphenyl (PCB) - A sub-group of the PAH family of organic chemicals, containing chlorine. PCB's were widely used in electrical transformers, fire retardants, heat transfer operations and other industrial manufacturing processes. Although PCB's are not now deliberately manufactured in Canada or the United States, they are produced inadvertently in some combustion processes such as garbage incineration. PCB's are toxic and once released, remain in the environment.
13. Remedial Action - Action taken to remedy a contamination problem at a specific location, e.g., reducing the input of toxic pollutants.
14. Superfund - Legislation passed in 1980 by the U.S. Congress to clean up the most highly contaminated areas in the U.S. In 1986, Congress appropriated approximately $9 billion for the Superfund program.
15. Toxic Chemical - A substance which has the potential to cause disease, deformity or death in living organisms which are exposed to sufficiently large quantities over either short or long periods of time.
16. Wastewater - used or contaminated water from sewage treatment plants or industrial processing.

The production of the Areas of Concern Fact Sheets is made possible by grants from the Ford Foundation, George Gund Foundation, Field Foundation, Northwest Area Foundation, Donner Canadian Foundation, Richard Ivey Foundation, Laidlaw Foundation, McLean Foundation, U.S. EPA, and the U.S. NOAA.